Chapter 1: Introduction, Objectives, Methodology, Data Base and Scope of the Study

1.1 Introduction to and Rationale of the Study

The public sector in India has been playing a crucial role in the industrial development as well as overall economic development of the nation. Its role and magnitude in the Indian economy have been directed by the Industrial Policy Resolution of 1948 and 1956. Directive Principles of State Policy in the construction of India were undertaken with the object of improving the living condition of vast majority of the common people in India who had been trapped in vicious circles of poverty, illiteracy, unemployment, crime and subsistence living due to a long history of colonial subjugation and tormented past. Immediately after independence state intervention in all sectors of the economy became inevitable because private sector had neither the necessary resources in terms of capital, managerial capability and scientific talent, etc. nor the willingness to undertake risky venture involving long-gestation period. India were seriously devastated on its economic, social, cultural, strategic fronts and various other imperatives for which it became really necessary for the Government to set up the public sector enterprises as an instrument of self-reliance economic growth so as to develop a strong industrial base and promote agricultural development to free the people from the clutches of poverty, illiteracy, unemployment, crime and overall economic backwardness, etc.

The predominant consideration for expansion of the public sector in India was to accelerate the growth of core sectors of the economy like Steel, Railways, Telecommunications, Power Generation, Defense, Hydrocarbons, Petrochemicals and others in order to enable the country to achieve a significant degree of self-sufficiency in the critical areas of the economy. Realizing that energy, particularly the oil and natural gas, plays a pivotal role in promoting, accelerating and sustaining industrial development, the Government of India made a huge investment in public sector enterprises (PSEs) engaged in producing, refining and selling of petroleum oil and other petroleum products such as diesel, kerosene oil, naphtha, gas lubes, chemical additives and lubricants, etc.
The development of the Indian oil and gas industry began on a very slow rate. It started mainly in the northeastern part of India especially in the place called Digboi in the state of Assam. Until the 1970’s, the production of petroleum and the exploration of new locations for extraction of petroleum were mainly restricted to the northeastern state in India. However, an important advancement in the Indian oil and gas industry came with the passing of Industrial Policy Resolution in 1956, which emphasized focus on the growth and promotion of industries in India. Another major incident was the discovery of Bombay High, which changed the scenario of the Indian oil and gas industry drastically. The Indian oil and gas sector was sponsored completely by the Government, and the management and control of it and all its related activities entirely vested to the Government. The oil and gas sector has the most significant role to play in changing the Indian economy from an agrarian economy to an industrial economy.

The advent of liberalization and privatization in India along with the global sphere attracted more of private capital in the capital structure of the Public Sector Enterprises (PSEs) in India that lead to make them more competitive with the global counterparts. The Oil and Gas sector was not an exception to this policy and accordingly the PSEs in Oil and Gas Sector in India adopted measures in planning their capital structure to keep pace with the changing global scenario where the pricing hike in oil and gas products in the international market is a regular and an alarming phenomenon. Along with liberalization and privatization, the overall economy of India grew. Also, the demand for petroleum products increased at an annual rate of about 5.5 per cent. The demand for petroleum and petroleum products still continues to grow, and there is great potential for investors to invest in the sector and gain valuable returns while meeting the increasing demands for the petroleum products. The oil and gas sector in India is particularly favorable for foreign investment because the industry is one of the fastest growing segments, and it has shown a staggering growth rate of around 13 per cent in the recent past. Apart from the tremendous growth rate in the Indian oil and gas sector today, it also boosts technology of international standards, easy availability of infrastructure at very cheap rates, high demands for petroleum products, and increased spending habits of the middle-class people, etc. All these factors make investments in the oil and gas sector in India an attractive proposition for foreign investors. Another very important reason why the oil and gas sector in India is a good option for investment is that the future of the oil and gas sector in India promises great potential for
development. The fast economic growth of India and the various developmental activities taking place in India have been influencing the said sector to be a dominant global player in the export of oil and gas products.

The oil and gas sector encompasses activities such as exploration and development, refining, petrochemical, transportation, marketing of petroleum products and natural gas, etc. This sector plays a pivotal role in the country’s rapid economic growth by contributing over 15 per cent of the Gross Domestic Product (GDP). It’s also the largest foreign exchange earner contributing about 17 per cent of the total exports from India. Oil accounts for about 34 per cent of India’s total energy consumption, and has been growing gradually as a share of the country’s fuel mix in recent years. The demand for natural gas, on the other hand, as per the Planning Commission is set to increase from 179 mmscmd to 280 mmscmd over the next decade.

India imports nearly 75 per cent of its crude oil requirement with a huge outflow in foreign exchange. The indigenous production has stagnated around 34 per cent of total requirement of petroleum oil. The current oil production from Barmer field is a significant step towards achieving energy security in our country. At its peck, the crude oil production from this block will be about 20 per cent of the current crude oil production of the country and it will save 7 per cent of the crude oil import bill and reduce import dependence. Therefore, it is extremely important to ensure that the domestic public sector oil and gas companies continuously strive to improve their performances in order to save the vast amount of foreign exchange, which is being spent on the imports of crude oil and various petroleum products. The question of efficient performance by the public sector oil and gas companies in India became more significant after the Government decision to dismantle the administered price mechanism in the petroleum sector from April, 2002 to accelerate the process of on-going economic reforms. Hence, it is the time that the public sector oil and gas companies in India prepare themselves to meet the challenges of liberalization, globalization and competition from the multinational companies.

In the above context, comparative studies of the financial performances of selected public sector oil and gas companies in India have been undertaken in the areas of capital structure and leverage, liquidity management, profitability and efficiency in total cost management, efficiency in asset management, internal resource generation, contribution to the central exchequer and value addition, etc. to identify the strengths and weaknesses pertaining to them so as to develop
the overall strategies to make them competitive with the global counterparts in the areas of making them self-sufficiency in crude oil production, generating power against the pricing hike of oil and gas products in the global market and fetching the economy a boost to be a self-reliant one, etc.

1.2 Objectives of the study

The specific objectives of the study are as follows:-

(a) To appraise the commendable role played by the selected PSEs in the oil and gas sector to accelerate the pace of economic growth in India by way of providing requisite supply of oil and gas products in the different sectors, providing support to various ancillary industries to grow and flourish, considering foreign exchange earnings through import substitution, etc.

(b) To analyze the capital structure of the selected companies under study and to measure and analyze the operating risk, financial risk and total risk by way of computing the Degree of Operating Leverage (DOL), Degree of Financial Leverage (DFL), Degree of Total Leverage (DTL) and Financial break-even point during the study period from 2000-01 to 2011-12. Long-term solvency positions have been analyzed considering various long-term solvency indicating parameters of the selected public sector oil and gas companies in India during the study period. This chapter also highlights the proportion of debt capital to total capital in the capital structure of the selected companies in the years to come to sustain and grow in the competitive and changing environment.

(c) To make a comparative analysis of the liquidity position of the selected companies under study during the study period from 2000-01 to 2011-12.

(d) To assess the profitability position and to identify the factors that account for the high/low profitability of the selected companies under study during the study period from 2000-01 to 2011-12.

(e) To measure the impact of total cost management on financial performance of the selected companies under study during the study period.

(f) To analyze the amounts contributed to the Central exchequer, analysis of internal resource generation and value addition, etc. by the selected companies under study
during the study period. To analyze the overall financial performance of the selected public sector oil and gas companies in India through some value added ratios during the study period from 2000-01 to 2011-12.

(g) To measure the efficiency of asset management of the selected companies under study during the study period from 2000-01 to 2011-12.

(h) To suggest appropriate measures for the improvement of financial performances of the selected companies under study during the study period.

1.3 Oil and Gas Sector in India: An Overview

The oil and gas sector is one of the six core industries in India and has vested significantly forward linkage with the entire economy. India have been growing at 8-9 per cent annually and is committed to accelerate the growth memorandum in the years to come. This would translate into India’s energy needs growing many times in the years to come. Hence, there is an emphasized need for wider and more intensive exploration for new finds more efficient and effective recovery, a more rational and optimally balanced global price regime as against the rather wide upward fluctuations of recent times and a spirit of equitable common benefit in global energy co-operation. Considering the high priority of our Government to enhance energy security of country and making petroleum products available to common man at affordable prices, Ministry of Petroleum and Natural Gas has adopted multi-pronged strategy. Stable crude oil prices are the first requirement for sustained economic development of our country. During the last 4-5 year(s), the prices of crude oil in the International Market have been on a roller coaster ride creating uncertainty. This volatility created problems for the import dependent economies. The Indian response to the volatility was measured one. Due to unprecedented rise in international prices, when crude touched an all time high of US $ 147 per barrel, the under-recoveries of PSEs Oil Marketing Companies during 2008-09 were more than Rs one lakh crore. However, Government bore the maximum burden of this price increase by issuing bonds worth Rs 71292 crores and rest was met by upstream oil companies. Maximum burden was passed on to the consumers. Ministry of Petroleum and Natural Gas formulated a scheme, namely, Rajiv Gandhi Gramin LPG Vitark Yojna which has launched very recent time. This envisages the increase in LPG population coverage from 50 per cent to almost 75 per cent by 2015. The scheme is primarily to reach LPG in villages, so that dependence on conventional fuels like
wood, coal, etc. is reduced. This will not only help to conservation of forests, but will also have positive impact on the environment as well as on the health of our rural womenfolk. In view of the above and to protect the “aam admi” from volatility in international oil prices, India have trying to intensify the efforts to discover hydrocarbon resources. Economic growth means higher demand for energy. Higher demand would require more intensified efforts in the fields of Exploration and Production. It is necessary that impetus provided by discovery of new fields under New Exploration Licensing Policy (NELP), which provides level playing field to each player be in indigenous or foreign has to be mentioned. The Indian oil and gas sector has been depicted in the following diagram:

**Chart: 1.1: Indian Oil and Gas Sector**

The Indian Oil and Gas sector

- Oil and Gas Exploration
  - ONGC, OIL

- Refining and Marketing
  - CPCL, KPL, BRPL, NRL, MRPL

- Natural Gas Distribution
  - IOC, HPCL, BPCL

- GAIL
  - Gujarat Gas

Source: Oil and Gas Sector Survey 2009, Ministry of Petroleum and Natural Gas, Government of India.
Table: 1.1: Public Sector Enterprises (PSEs) under the Ministry of Petroleum and Natural Gas, Government of India

<table>
<thead>
<tr>
<th>Exploration and Production</th>
<th>Refining and Marketing</th>
<th>Petrochemicals</th>
<th>Engineering Unit</th>
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<td>BRPL</td>
<td>Balmer Lawrie and Co. Ltd.</td>
</tr>
<tr>
<td>OIL</td>
<td>HPCL</td>
<td>MRPL</td>
<td>Biecco Lawrie Ltd.</td>
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<td>IOC</td>
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<tr>
<td>ONGC-Videsh Ltd.</td>
<td>CPCL</td>
<td>CPCL</td>
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<td>IOC</td>
<td>KRL</td>
<td>GAIL</td>
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<td>HPCL</td>
<td>BRPL</td>
<td>HPCL</td>
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<tr>
<td>BPCL</td>
<td>IBP Co. Ltd.</td>
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<td>MRPL</td>
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Source: Outcome Budget 2010-11, Ministry of Petroleum and Natural Gas, Government of India.
1.4 Selection of Companies and Scope of the Study

The research study presumes the selection of public sector oil and gas companies in India for the comparative study purpose. The oil and gas sector in India is largely in the public sector. Though the Government of India has opened the oil and gas industry to private participation since the announcement of New Industrial Policy on July 24 1991, the private investment in this area has not come up as expected, presumably due to enormous capital requirement, environmental constrains and long-gestation period, etc. Hence, the study is confined to the public sector oil and gas companies controlling by the Government of India for the period from 2000-01 to 2011-12. At present, there are more than 12 companies in the public sector engaged mainly in producing, refining and selling oil and gas products in India. The oil and gas companies in India have been organized as Government Companies U/S 617 of the Companies Act 1956. Some of the companies are included in the list of Global Fortune-500 Companies List-2011 because of their capacity outlay, turnover and profit, etc. Even after opening the oil and gas sector as private sector companies the Government of India has decided to retain the public sector oil and gas companies under its control in the larger national interest.

Out of the oil and gas companies operating as PSEs in India (shown at Table-1.1), six companies have been selected for comparative study purpose after careful examinations of their operations, paid-up capital, organization structure, earning capability and market capitalization, etc. The six companies that have selected are Oil and Natural Gas Corporation of India Ltd. (ONGC), Oil India Limited (OIL), Indian Oil Corporation Ltd. (IOCL), Bharat Petroleum Corporation Ltd. (BPCL), Hindustan Petroleum Corporation Ltd. (HPCL) and Gas Authority of India Ltd. (GAIL). It may be pointed that IOCL, ONGC and BPCL are among the Global Fortune 500 Companies List 2011. The study has been concentrated on the analysis of financial performance of the selected public sector oil and gas companies in India individually as well as comparative analysis has been made among the various selected companies regarding their financial performances in the areas of capital structure and leverage, liquidity management, profitability and efficiency in total cost management, efficiency in asset management, internal resource generation, contribution to the central exchequer, and value addition, etc to comment on their overall financial performances and draw conclusion.
1.5 Research Methodology and Data Base of the Study

Research methodology and data base are very important part of a scientific research. A well-planned methodology can enrich a research study through systematic collection and compilation of data along with their meaningful analysis and interpretation to find out the truth of a social or physical phenomenon or problem. As stated earlier, the six companies that have selected are Oil and Natural Gas Corporation of India Ltd. (ONGC), Indian Oil Corporation Ltd. (IOCL), Oil India Limited (OIL), Bharat Petroleum Corporation Ltd. (BPCL), Hindustan Petroleum Corporation Ltd. (HPCL) and Gas Authority of India Ltd. (GAIL). The time period of the study is twelve years i.e. from 2000-01 to 2011-12. The data which have been used in this study are collected from secondary sources i.e. the published annual reports of the selected public sector oil and gas companies under study, official sources pertaining to the Department of Public Enterprises, Government of India, New Delhi, Ministry of Petroleum and Natural Gas, Government of India, various reputed journals, e-journals from UGC-Inflebinet centre, various reputed books on finance, Government reports, and “Capitaline 2000” database has been used for procuring data. For the purpose of conducting the research work internet surfing has been used for obtaining the latest and requisite information and SPSS statistical package has also been used for statistical computation purpose. For analyzing the data managerial tools like percentages, averages, ratios and statistical techniques like simple correlation analysis, rank correlation, etc. have been used. To test the significance of the results of the empirical study statistical test viz. ‘t’ test has been applied in appropriate places. Wherever possible diagrams, graphs and charts have been shown to give an eye view of the situation. After the analysis and interpretations of these data suggestions have been forwarded regarding the capital structure and leverage and their implications, short-term liquidity, profitability and efficiency in total cost management, efficiency of asset management, contribution to the Central Exchequer, internal resource generation, value addition and overall financial performances, etc. of the selected public sector oil and gas companies in India during the study period from 2000-01 to 2011-12.
1.6 Organization of the Study

The study has been organized with eight chapters followed by bibliography and appendix. A brief outline of the organization of the study is presented as under:

The first chapter, entitled “Introduction, Objectives, Methodology, Data Base and Scope of the Study”, gives an introduction of the study, the basic highlights of Indian Oil and Gas Sector, objectives, data base and research methodology, scope, limitation and organization of the study.

In chapter two, backgrounds of the selected companies under study, literature review and identification of research gap have been presented.

The third chapter entitled “Analysis of Capital Structure and Measurement of Leverage Ratios and their Implications of the selected Public Sector Oil and Gas Companies in India” describes introduction, financial structure and capital structure, concept of long term funds and factors affecting the requirement of long term funds of the selected public sector oil and gas companies in India during the study period from 2000-01 to 2011-12. This chapter also emphasizes the gearing of capital, operating leverage, financial leverage, financial break-even point and total leverage of the selected public sector oil and gas companies in India during the study period from 2000-01 to 2011-12. This chapter again highlights the proportion of debt capital to total capital in the capital structure of the selected public sector oil and gas companies in India in the years to come to sustain and grow in the competitive and changing environment.

Chapter four deals with the Analysis of Performance of Liquidity Management of the selected public sector oil and gas companies in India during the study period from 2000-01 to 2011-12. Traditional measure of short-term liquidity reveals a mixed situation of the selected public sector oil & gas companies in India. The major liquidity ratios which have been selected in this study are current ratio, liquid ratio, absolute liquid ratio, current assets sales ratio and current assets to total assets ratio and performance indices which have been considered are performance index (PI), utilization index (UI) and efficiency index (EI). In this chapter an attempt has been made to measure the impact of working capital management on profitability by computing the associations between the selected measures relating to the working capital management and return on capital employed (ROCE) during the selected study period. In this
chapter an attempt has also been undertaken to throw some light on the efficiency of selected performance indices of the selected public sector oil and gas companies in India during the study period from 2000-01 to 2011-12.

Chapter five entitled “Analysis of Profitability and Efficiency in Total Cost Management of Selected Public Sector Oil and Gas Companies in India” deals with the introduction, concepts of profitability and efficiency, analysis of profitability in relation to sales revenue as well as in relation to investment and relationship between liquidity and profitability of the selected companies under study during the study period from 2000-01 to 2011-12. A comparative study has also been undertaken regarding the financial performances of the selected public sector oil and gas companies in India to draw conclusion. This chapter also emphasizes the impact of total cost management on financial performance of the selected public sector oil and gas companies in India during the study period from 2000-01 to 2011-12.

Chapter six presents the analysis of the efficiency of asset management of the selected public sector oil and gas companies in India for the study period from 2000-01 to 2011-12. This chapter concentrating on the study of associations between the selected ratios relating to efficiency in asset management (viz. FATR, TATR, WCTR, ITR, DTR and CTR) and profitability ratio (measured in terms of ROCE) of the selected public sector oil and gas companies in India during the study period from 2000-01 to 2011-12.

Chapter seven deals with the performance analysis through Internal Resource Generation, Contribution to the Central Exchequer and the Value Addition by the selected public sector oil and gas companies in India during the study period from 2000-01 to 2011-12. Financial performance has been analyzed by some value added ratios of the selected public sector oil and gas companies in India during the study period.

The last and final chapter deals with the presentation of the summary of the study, suggestions and conclusion of the study.
1.7 Limitations of the study

Every research study has some limitations; the present study is not an exception to that concept. Though the study is highly valuable, it is possible to identify the drawbacks that should be taken into consideration for meaningful interpretation and proper application of the findings of the study. The study is limited to only twelve years i.e., from 2000-01 to 2011-12, as a result the comparison can be done over the selected period only, beyond this period the results may not be highly reliable because from the statistical point of view, longer the period of analysis the greater is the reliability of the findings. The study is based on secondary data collected from the published annual reports of the companies under study, Public Enterprise Survey, issued by the Government of India. The general weaknesses associated with the secondary data could not be eliminated altogether.

1.8 Scope for Future Research

In spite of the above mentioned limitations the study has come out with a wealth of valuable findings which can be useful not only to the Government and management of the selected companies under study but also to the future researchers who will find a clue to ample research opportunities that still exists in the areas of analysis of financial performance of the selected public sector oil and gas companies in India. The study will open up ample scope for further research in the areas of finance, human resource, marketing, corporate social responsibility, market value addition, shareholders’ value addition, employment generation, foreign exchange earnings, etc. by the selected public sector oil and gas companies in India and financial performance can be measured for the private sector oil and gas companies in India too and comparison can also be done between public sector and private sector companies regarding the areas stated earlier.
References:

- Business World.
- The Times of India.
- Official websites of ONGC, IOCL, OIL, BPCL, HPCL and GAIL.